PATENT SPECIFICATION

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755,239

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Index at acceptance:—**Class 146(3)**, P11(K:M).

COMPLETE SPECIFICATION

Writing Pens

We, M. MYERS & SON LIMITED, of Vicarage Street, Oldbury, Near Birmingham, a British Company, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to writing pens of the ball-pointed retractible ink tube type, and has for its object to enable the mechanism required for actuating the ink tube to be provided in a simple and convenient form.

A pen in accordance with the invention comprises the combination of a two-part body, a thin metal tube inserted tightly in the end of one of the said body parts remote from the end through which the operative end of the ink tube is required to extend, the said tube being provided with a longitudinal slot, a second and relatively rotatable inner tube secured within the adjacent end of the other body part and having therein a helical slot, and a cylindrical core slidable within the second tube, the core having a lateral projection which extends through the said slots of both tubes and being attached to the inner end of the ink tube, and the arrangement being such that axial movement of the ink tube is effected by rotation of one of the body parts relatively to the other.

In the accompanying drawings:—

Figure 1 is a part sectional view illustrating a pen embodying the invention.

Figures 2 and 3 respectively illustrate the parts herein referred to as the outer and inner tubes.

Figures 4 and 5 illustrate the part referred to as the plug to which can be attached one end of the ink tube.

Referring to Figure 1, the body, or handle, of the pen is formed from a pair of coaxial tubular parts *a*, *b*, which may be made from any convenient thermo-plastic or other like synthetic material, or metal, and are shaped to any desired configuration. The mechanism contained within the body between the adjacent ends of the two parts *a*, *b*, comprises an outer tube *c* and an inner tube *d*, the latter having a lip or flange at one end as shown in Figure 3. Each of these may be made by rolling a thin metal strip to a cylindrical form.

The outer tube *c* is adapted for the insertion of one of its ends withdrawably into tight engagement with one end of the body part *a* along which the ink tube *e* extends, and has formed in it a longitudinal slot *f*, the body part *b* being adapted to receive freely the other end of the tube *c*.

The inner tube *d* lies within and extends beyond one end of the tube *c*, and the projecting end is fixedly secured within the body part *b*. In the inner tube is formed a helical slot *g* of any convenient length. Preferably each end of this slot terminates in a lateral notch.

Within the inner tube *d* is contained an axially slidable core *i* of cylindrical form which is adapted for detachable engagement therewith of the inner end of the conventional ball-pointed ink tube *e*. Through the core *i* is formed a transverse hole *h* for reception of a pin *m* which at one end extends through the slots in the tube *c*, *d*.

The core *i* may be made in the form of a socket into which can be inserted the inner end of the ink tube. Preferably it is made in the form shown in Figures 4 and 5, and comprises a spigot-like part *n* which extends from one end of the part *i* and has a pointed end with which the inner end of the ink tube can be easily engaged. The said part *n* is preferably shaped to the form of a flattened spike resembling a spear head, and is such that its width at its root corresponds to the internal diameter of the ink tube. When made to this shape, the side faces of the spike form with the inner surface of the ink tube passages through which air can freely enter the ink tube, thus obviating the need for the usual air vent in one side of the ink tube. To ensure free entry of air the end of the part *i* from which the spike extends and against which the inner

[*Price 3s. 0d.*]

end of the ink tube abuts, may have formed on it a small groove *o*. By the use of a pointed spigot instead of a socket for engagement by the ink tube, replacement of an exhausted tube by a new tube, is facilitated. The shape of the spigot-like part may however be varied. Thus it may be made of conical form having thereon one or more longitudinal grooves. It will be understood that the spigotted part lies wholly within the tube *d*, and that the internal diameter of this tube is made such that it can receive the inner end of the ink tube and guide it on to the spigot.

The mechanism contained within the body part of the pen as above described is such that axial movements of the ink tube in the direction for exposing or retracting the operative end of the ink tube is effected by rotational movement of one of the body parts relatively to the other. When the ink tube is in either its outer or its inner position it is effectively retained therein by engagement of the pin *m* with one or the other of the notches *h* at the ends of the slot *g* in the tube *d*. When it is required to replace the ink tube, the body parts *a*, *b* can be separated by pulling them apart, so causing the part *b* to withdraw from the part *a* both the ink tube and the tube *c*, thereby enabling the spent ink tube to be detached and replaced by another.

What we claim is:—

1. A writing pen of the kind specified comprising the combination of a two-part body, a thin metal outer tube inserted tightly in the end of one of the said body parts remote from the end through which the operative end of the ink tube is required to extend, the said tube being provided with a longitudinal slot, a second and relatively rotatable inner tube secured within the adjacent end of the other body part and having therein a helical slot, and a cylindrical core slidable within the second tube, the core having a lateral projection which extends through the said slots of both tubes and having attached thereto the inner end of the ink tube, and the arrangement being such that axial movement of the ink tube is effected by rotation of one of the body parts relatively to the other.

2. A writing pen as claimed in Claim 1, in which the slidable core has formed on it a pointed spigot-like part with which the inner end of the ink tube is engaged.

3. A writing pen of the kind specified comprising the combination and arrangement of parts substantially as described and as illustrated by the accompanying drawings.

MARKS & CLERK.

PROVISIONAL SPECIFICATION

No. 3188 A.D. 1954

Writing Pens

We, M. MYERS & SON LIMITED, of Vicarage Street, Oldbury, Near Birmingham, a British Company, do hereby declare this invention to be described in the following statement:—

This invention relates to writing pens of the ball-pointed retractable ink tube type, and has for its object to enable the mechanism required for actuating the ink tube to be provided in a simple and convenient form.

A pen in accordance with the invention comprises the combination of a two-part body, a thin metal tube inserted in the end of one of the said body parts remote from the end through which the operative end of the ink tube is required to extend, the said tube being provided with a longitudinal slot, a second and relatively rotatable inner tube secured within the adjacent end of the other body part and having therein a helical slot, and a socket slidable within the second tube, the socket having a lateral projection which extends through the said slots of both tubes and being adapted for the attachment thereto of the inner end of the ink tube, and the arrangement being such that axial movement of the ink tube is effected by rotation in one of the body parts relatively to the other.

In one example the body, or handle, of the pen is formed from a pair of coaxial tubular parts which are preferably made from any convenient thermoplastic or other like synthetic material or metal, and are shaped to any desired configuration. The mechanism to be contained within the body between the adjacent ends of the two body parts comprises an outer tube and an inner tube. Each of these is made by rolling a thin metal strip to a cylindrical form. The outer tube is adapted for the insertion of one of its ends tightly into the end of the body part along which the ink tube extends and has formed along a part of its length a longitudinal slot.

The other tube lies within the first mentioned tube and extends beyond one end of the said tube, the projecting end being secured within the other body part. Also on the end of the inner tube remote from the end attached to the said other body part is formed an annular lip or flange. Further there is formed in the inner tube a helical slot of any convenient length.

Within the inner tube is arranged an axially slidable socket for detachable engagement therewith of the inner end of the conventional ball-pointed ink tube, and on the socket is formed or secured a short lateral projection which extends through both of the slots in the

tubes above mentioned.

The arrangement is such that axial movements of the ink tube in the direction for exposing or retracting the operative end of the ink tube is effected by rotational movement of one of the body parts relatively to the other.

When it is required to replace the ink tube, the body parts can be separated by pulling them apart, so causing the ink tube and its actuating mechanism to be withdrawn and thereby enabling the spent ink tube to be detached and replaced by another.

MARKS & CLERK.

PROVISIONAL SPECIFICATION
No. 9062 A.D. 1954

Writing Pens

We, M. MYERS & SON LIMITED, of Vicarage Street, Oldbury, Near Birmingham, a British Company, do hereby declare this invention to be described in the following statement:—

This invention relates to writing pens of ball-pointed rectractible ink-tube type.

In the Provisional Specification of our concurrent Application for Patent No. 3188 of 1954, we have described an invention relating to pens of the said type which comprises the combination of a two-part body, a thin metal tube insertible in the end of one of the said body parts remote from the end through which the operative end of the ink tube is required to extend, the said metal tube being provided with a longitudinal slot, a second and relatively rotatable inner tube secured within the adjacent end of the other body part and having therein a helical slot, and a socket slidable within the second tube, the socket having a lateral projection which extends through the slots of both tubes and being adapted for the attachment thereto of the inner end of the ink tube, and the arrangement being such that axial movement of the ink tube is effected by rotation of one of the body parts relatively to the other.

In the further development of the said invention we have devised a modification which facilitates the attachment of the ink tube and which forms the subject of the present Specification.

The modification consists of a construction as above specified in which the part described as a socket is substituted by a spigot-like part.

A further feature of the modification consists of an air vent combined with the spigot-like part.

In general the modified construction is similar to that described in our previous Specification above mentioned, but the inner component to which the ink tube is to be attached is made of cylindrical form and on one end of it is formed or secured an extending spigot-like part having a pointed end with which the inner end of the ink tube can easily be engaged. The said spigot-like part is preferably shaped to the form of a flattened spike resembling a spear head, and is such that its width at its root corresponds to the internal diameter of the ink tube. When made to this shape the side faces of the spike form with the inner surface of the ink tube, passages through which air can freely enter the ink tube, thus obviating the need for the usual air vent provided in one side of the ink tube. Also, and in order to ensure free entry of air, the end of the part from which the spike extends and against which the inner end of the ink tube abuts, has formed across it a small groove. By the use of a pointed spigot instead of a socket for engagement by the ink tube, replacement of an exhausted tube by a new tube is facilitated.

The invention is not however, limited to the example above described, as the shape of the spigot-like part may be varied. Thus it may be made of conical form having thereon one or more longitudinal grooves.

The component on which the spigot is formed may be connected to the associated tubes by an integral lateral projection engaging the slots in the said tubes, or, and preferably, by a pin inserted through it and the said slots.

It will be understood that the spigotted component lies wholly within the inner tube, and that the internal diameter of the said tube is such that it can receive the open end of the ink tube and guide it on to the spigot.

MARKS & CLERK,

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755,239 COMPLETE SPECIFICATION
1 SHEET

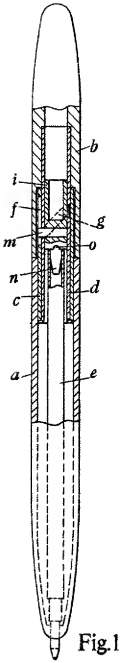

Fig.1

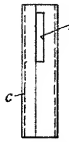

Fig.2

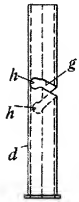

Fig.3

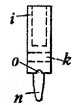

Fig.4

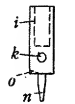

Fig.5